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Our Reference: CWL-101-A

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: William A. Cox  
Serial Number: 09/863,181  
Filing Date: May 23, 2001  
Examiner/Art Group Unit: Peterson, Kenneth E./3724  
Title: ROTARY DIE MODULE

37 C.F.R. § 1.132 DECLARATION OF WILLIAM A. COX

I, William A. Cox, declare that:

1. I am the President and owner of the Cox Group, Inc. I have extensive experience in the die cutting industry, particularly, die cutting of thin, flexible materials and have worked in this industry for over 20 years.
2. I have reviewed the Examiner's March 6, 2003 Office Action Summary.
3. I have reviewed the Fawell Patent No. 661,470. Fawell discloses a rolling mill using thick, machined side plates called the housings (1) and uses cylindrical bushings and spacers to vertically support the rotary dies both laterally and linearly along the axis of rotation. These bushings, die supports and spacers require precision machined slots in the side plates or housings which are old in the art and continue to be used in more modern devices, for example U.S. Pat. No. 5,467,678 to Stollenwerk referred to by the Examiner and further discussed below.
4. The Fawell patent does not use die supports that are separated from the side plates or columns, but rather, rely on the support of the side plates/housings to anchor and restrain the die supports (cylindrical bushings or cylindrical roller bearings).

-2-

S.N. 09/863,181

5. I disagree with the Examiner's conclusion in paragraph 4 of the Office Action Summary that it is only important for the columns to be uniform in cross section in the area where the cross members slide on them. I agree that the columns need to generally be uniform in the area where the cross members move on them, however, as explained in the present invention specification, significant benefits and advantages are achieved through use of off-the-shelf columns or rods that are uniform along their length to substantially reduce, if not eliminate, the amount of precision machining required in the Fawell and Stollenwerk patents, and prior art devices that I am aware of.

6. I am not aware of any other rotary die module which utilizes off-the-shelf elongate columns or rods which eliminate the heavy, machined side plates shown in Fawell and Stollenwerk. On that basis, I disagree that it would have been obvious to those skilled in the art to employ uniform, elongate rods as a simple matter of design choice.

7. I am not aware of another rotary die module that separates the columns from the die supports like the present invention.

8. I have reviewed Stollenwerk Patent No. 5,467,678. Stollenwerk discloses a device for applying equal pressure to the top roller of a rotary die device. From my experience, Stollenwerk would necessarily employ heavy, machined side plates and cylindrical roller bearings to support and restrain the rotary cutting dies similar to that in Fawell.

9. I disagree with the Examiner's conclusions in paragraph 5 of the Office Action Summary for two reasons. First, neither Fawell nor Stollenwerk use

individual or peripheral rollers to vertically support and permit rotation of the rotary dies. Both Fawell and Stollenwerk show use of die supports having individual precision machined side plates which receive and restrain the cylindrical bushings or cylindrical roller bearings in machined slots which receive journals extending from the roller dies. Second, from my experience, one skilled in the art would not simply replace the cylindrical roller bushings or bearings of Fawell and Stollenwerk with peripheral rollers 50 and 52 shown in Stollenwerk. The typical machined side plates are designed to accept bearing blocks housing the cylindrical roller bearings, and without significant modification, would not readily accept individual peripheral rollers similar to Stollenwerk to support and restrain the dies to meet typical performance requirements.

10. I am not aware of another rotary die module device that has die supports using cylindrical roller bearings that are separated from the side plates or columns as used in the present invention.

11. I have reviewed the Okuda Patent No. 4,155,240. Okuda shows a device for positioning and connecting drive spindles (1a, 1b) between rotary dies (8a, 8b) and a pinion stand (P). The device uses two pairs of vertical cylindrical posts (13) which are used as vertical guides for the spindles which are vertically adjusted to accommodate the vertical distance between the two rotary dies.

12. I disagree with the Examiner's conclusion in paragraph 6 that Okuda shows that it is well-known to vertically adjust rotary dies using cylindrical columns of uniform cross section. Okuda does not adjust rotary dies, rather, it vertically adjusts spindles that are attached at one end of the rotary dies. This is quite

different from my invention's use of rods or columns as a die frame to provide structure for the rotary die module. The columns or rods used in my invention are part of the rotary die framing structure. The use of uniform columns or rods, to the best of my knowledge and experience, is unique to this application which is different from the manner in which the posts of Okuda are employed and used.

13. It is also my opinion based on experience that one skilled in the art would not simply take the cylindrical posts of Okuda and use those posts in Stollenwerk or Fawell. As explained above, Fawell and Stollenwerk use machined side plates which receive and restrain the cylindrical roller bearings or bushings supporting the rotary dies. The posts of Okuda would have to be machined or otherwise modified to properly accept and restrain the cylindrical roller bearings as well as independent peripheral rollers.

14. I designed the rotary die module invention at my home which took in excess of 200 hours and \$16,000 dollars in time and materials.

15. To date, I have not advertised the rotary die module through mass mailings, industry or business publications, trade shows or an internet website.

16. Without the benefit of advertising, I have sold 22 rotary die modules.

17. Following the first order for a single rotary die module, my customer subsequently ordered an additional 21 rotary die modules due to the substantial functional benefits and cost advantages over conventional dies previously used by the customer.

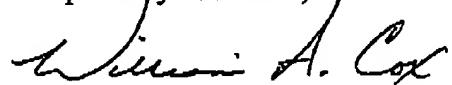
-5-

S.N. 09/863,181

18. I have been contacted by three additional potential customers with interest in the rotary die module. To the best of my knowledge and belief, without the benefits of advertising, interest in my rotary die module has spread to at least these three additional customers by word of mouth.

19. In my experience, without advertising, the level of sales and interest in the rotary die module supports that my invention was not obvious to those skilled in the rotary die cutting field at the time the invention was made.

Respectfully Submitted,



William A. Cox

Dated: 22 April 2003